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| COLEMAN, BRENDA LIBBY | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1624 | |

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/644,076 | LUECKING ET AL. | |
| | Examiner | Art Unit | |
| | Brenda L. Coleman | 1624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14 and 17-22* is/are pending in the application.

4a) Of the above claim(s) *6,10 and 11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-9,12-14 and 17-22* is/are rejected.

7)☒ Claim(s) *4 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

Claims 1-14 and 17-22 are pending in the application.

This action is in response to applicants' amendment dated May 15, 2006. Claims 12 and 16-18 have been amended and claim 14 has been canceled.

### *Response to Arguments*

Applicant's arguments filed May 15, 2006 have been fully considered with the following effect:

1. With regards to the 35 U.S.C. § 112, first paragraph rejection labeled paragraph 3 in the last office action, the applicant's arguments have been fully considered, however they were not found persuasive. The applicant's stated that the claims are enabled in view of the specification which teaches that the compounds of formula I inhibit cyclin-dependent kinases, page 2, and this statement is supported with a discussion of the link between such inhibition and treatment of the recited indications. However, Knockaert et al. (provided herein) states that the actual selectivity of most known CDK inhibitors, and thus the underlying mechanism of their cellular effects, is poorly known. Pharmalogical inhibitors of CDKs are currently being evaluated for their therapeutic use against cancer; alopecia; neurodegenerative disorders such as Alzheimer's disease, amyotrophic lateral sclerosis and stroke; cardiovascular disorders such as atherosclerosis and restenosis; glomerulonephritis; viral infections such as HCMV, HIV and HSV; and parasitic protozoa such as *Plasmodium sp.* and *Leishmania sp.* Knockaert indicates that no inhibitor that is selective for a single CDK has been discovered. The effects of CDK inhibitors on the cell cycle and their potential value for

the treatment of cancer have been extensively studied. However, Knockaert states that at present no therapeutic agent used to treat cancer has been shown unequivocally to act through CDK inhibition. One example of a disorder in which CDK5 might be deregulated is Alzheimer's disease (AD), however, Knockaert states that although the kinases that hyperphosphorylate tau constitute attractive targets for therapeutic intervention, the consequences of their selective inhibition for the development of AD remain elusive. CDK5 has recently been implicated in ALS pathogenesis. Knockaert states that CDK5 inhibition may be an appealing approach to treat ALS. It is also stated that glomerulonephritis diseases constitute potential targets for treatment with pharmacological inhibitors of CDKs. Knockaert concludes that while substantial efforts from many research groups have led to the discovery, optimization and characterization of potent CDK inhibitors, their cellular targets remain to be identified. Because CDKs are involved in multiple physiological pathways, it seems likely that numerous, currently unforeseen therapeutic indications will be discovered. As stated in the last office action the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The scope of the method claims are not adequately enabled solely based on its inhibitory effect cyclin-dependent kinases.

In evaluating the enablement question, several factors are to be considered. In re Wands, 8 USPQ2d 1400 (Fed. Cir. 1988); Ex parte Forman, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5)

the presence or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

Where the utility is unusual or difficult to treat or speculative, the examiner has authority to require evidence that tests relied upon are reasonably predictive of in vivo efficacy by those skilled in the art. See *In re Ruskin*, 148 USPQ 221; *Ex parte Jovanovics*, 211 USPQ 907; MPEP 2164.05(a).

Patent Protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. Tossing out the mere germ of an idea does not constitute enabling disclosure. *Genentech Inc. v. Novo Nordisk* 42 USPQ2d 1001.

Additionally, according to Stedman there are over two hundred such cancerous conditions, including, "acinar cell tumors, a solid and cystic tumors of the pancreas, occurring in young women; tumors cells contain zymogen granules. Acoustic tumors vestibular schwannoma. Acute splenic tumors, acute splenitis, enlargement, and softening of the spleen, usually due to bacteremia or severe bacterial toxemia. Adenoid tumors adenoma, or neoplasm with gland like spaces. Adenomatoid tumors a small benign tumors of the male epididymis and female genital tract, consisting of fibrous tissue or smooth muscle enclosing anastomosing gland-like spaces containing acid mucopolysaccharide lined by flattened cells that have ultra-structural characteristics of mesothelial cells, benign mesothelioma of genital tract tumors, adenomatoid odontogenic tumors a benign epithelial odontogenic tumors appearing radiographically as a well-circumscribed radiolucent-radiopaque lesion usually surrounding the crown of

an impacted tooth in an adolescent or young adult; characterized histologically by columnar cells organized in a duct like configuration interspersed with spindle-shaped cells and amyloid like deposition that gradually undergoes dystrophic calcification, adenoameloblastoma, ameloblastic adenomatoid tumors. Adipose tumors lipoma. Ameloblastic adenomatoid tumors. Adenomatoid odontogenic tumors. Amyloid tumors nodular amyloidosis. Aortic body tumors chemodectoma. Bednar tumors. Pigmented dermatofibrosarcoma protuberans. Benign tumors, a tumor that does not form metastases and does not invade and destroy adjacent normal tissue. Innocent tumors. Blood tumors, term sometimes used to denote an aneurysm, hemorrhagic cyst, or hematoma. Borderline ovarian tumors an ovarian surface epithelial tumors in which the growth pattern is intermediate between benign and malignant; includes mucinous, serous, endometrioid, and Brenner tumors of the ovary; highly curable but may recur after surgical removal. Low malignant potential tumors, Brenner tumors a relatively infrequent benign neoplasm of the ovary, consisting chiefly of fibrous tissue that contains nests of cells resembling transitional type epithelium, as well as gland like structures that contain mucin; origin is controversial, but it may arise from the Walthard cell rest; ordinarily found incidentally in ovaries removed for other reasons, especially in postmenopausal women. Brooke tumors. Trichoepithelioma. Brown tumors, a mass of fibrous tissue containing hemosiderin-pigmented macrophages and multinucleated giant cells, replacing and expanding part of a bone in primary hyperparathyroidism. Tumors burden the total mass of tumors tissue carried by a patient with a malignancy. Calcifying epithelial odontogenic tumors a benign epithelial odontogenic neoplasm

derived from the stratum intermedium of the enamel organ; a painless, slowly growing, mixed radiolucent-radiopaque lesion characterized histologically by cords of polyhedral epithelial cells, deposits of amyloid, and spherical calcifications. Pindborg tumors. Carcinoid tumors a usually small, slow-growing neoplasm composed of islands of rounded, oxyphilic, or spindle-shaped cells of medium size, with moderately small vesicular nuclei, and covered by intact mucosa with a yellow cut surface; neoplastic cells are frequently palisaded at the periphery of the small groups, and the latter have a tendency to infiltrate surrounding tissue. Such neoplasms occur anywhere in the gastrointestinal tract (and in the lungs and other sites), with approximately 90% in the appendix and the remainder chiefly in the ileum, but also in the stomach, other parts of the small intestine, the colon, and the rectum; those of the appendix and small tumors seldom metastasize, but reported incidences of metatases from other primary sites and from tumors exceeding 2.0 cm in diameter vary from 25-75%; lymph nodes in the abdomen and the liver may be conspicuously involved, but metastases above the diaphragm are rare. Carcinoid syndrome. Carotid body tumors. Chemodectoma. Cellular tumors, tumors composed mainly of closely packed cells. Cerebellopontine angle tumors vestibular schwannoma. Chromaffin tumors. Chromaffinoma. Codman tumors. Chondroblastoma of the proximal humerus. Collision tumors two originally separate tumors, especially a carcinoma and a sarcoma, that appear to have developed by chance in close proximity, so that an area of mingling exists. Carcinosarcoma. Connective tumors, any tumors of the connective tissue group, such as osteoma, fibroma, sarcoma. Dermal duct tumors benign small tumors derived from the

intradermal part of eccrine sweat gland ducts occurring often on the head and neck. Dermoid tumors. Dermoid cystumors. Desmoid tumors. Desmoid (2). Desmoplastic small cell tumors a high-grade malignant tumors found most often in the abdomen of adolescent males; typically tumors cells contain both desmin and keratin, i.e., show hybrid features like fetal mesothelial cells; the exact nature of these cells remains unknown. Dysembryoplastic neuroepithelial tumors a rare low-grade neoplasm most frequently seen in children and associated with seizures and cortical dysplasia; the often multinodular, multicystic tumors is composed of oligodendroglial-like cells with accompanying neurons. Eighth nerve tumors. Vestibular schwannoma. Embryonal tumors. Embryonic tumors a neoplasm, usually malignant, which arises during intrauterine or early postnatal development from an organ rudiment or immature tissue; it forms immature structures characteristic of the part from which it arises, and may form other tissues as well. The term includes neuroblastoma and Wilms tumors, and is also used to include certain neoplasms presenting in later life, this usage being based on the belief that such tumors arise from embryonic rests. Tteratoma, embryoma, embryonal tumors of ciliary body embryonal medulloepithelioma. Endocervical sinus tumors malignant germ cell tumors commonly found in the ovary. The tumor arises from primitive germ cells and develops into extra-embryonic tissue resembling the yolk sac, yolk sac carcinoma. Endodermal sinus tumors a malignant neoplasm occurring in the gonads, in sacrococcygeal teratomas, and in the mediastinum; produces (alpha)-fetoprotein and is thought to be derived from primitive endodermal cells. Yolk sac tumors. Endometrioid tumors, a tumor of the ovary containing epithelial or stromal

elements resembling tumors of the endometrium. Erdheim tumors craniopharyngioma. Ewing tumors a malignant neoplasm which occurs usually before the age of 20 years, about twice as frequently in males, and in about 75% of patients involves bones of the extremities, including the shoulder girdle, with a predilection for the metaphysic; histologically, there are conspicuous foci of necrosis in association with irregular masses of small, regular, rounded, or ovoid cells (2-3 times the diameter of erythrocytes), with very scanty cytoplasm. Endothelial myeloma. Ewing sarcoma. Fecal tumors. Fecaloma. Fibroid tumors old term for certain fibromas and leiomyomas. Gastrointestinal autonomic nerve tumors benign or malignant tumors of stomach and small intestine histogenetically related to myenteric plexus; may be familial and related to gastrointestinal neuronal dysplasia. Gastrointestinal stromal tumors benign or malignant tumors composed of unclassifiable spindle cells; immunohistochemically distinct from smooth muscle and Schwann cell tumors. Giant cell tumors of bone a soft, reddish-brown, sometimes malignant, osteolytic tumors composed of multinucleated giant cells and ovoid or spindle-shaped cells, occurring most frequently in an end of a long tubular bone of young adults. Giant cell myeloma. Osteoclastoma, giant cell tumors of tendon sheath a nodule, possibly inflammatory in nature, arising commonly from the flexor sheath of the fingers and thumb; composed of fibrous tissue, lipid- and hemosiderin-containing macrophages, and multinucleated giant cells. Localized nodular tenosynovitis. Glomus tumors, a vascular neoplasm composed of specialized pericytes (sometimes termed glomus cells), usually in single encapsulated nodular masses that may be several millimeters in diameter and occur almost exclusively in the

skin, often subungually in the upper extremity; it is exquisitely tender and may be so painful that patients voluntarily immobilize an extremity, sometimes leading to atrophy of muscles; multiple glomus tumors occur, sometimes with autosomal dominant inheritance. Tumors 1 with cavernous spaces lined by glomus cells are called glomangiomas. Glomus jugulare tumors a glomus tumors arising from the jugular glomus and usually presenting initially in the hypotympanum. Glomus tympanicum tumors a glomus tumors arising on the medial wall of the middle ear. Godwin tumors benign lymphoepithelial lesion. Granular cell tumors a microscopically specific, generally benign tumors, often involving peripheral nerves in skin, mucosa, or connective tissue, derived from Schwann cells; the abundant cytoplasm contains lysosomal granules, the cells infiltrate between adjacent tissues although growth is slow, and adjacent surface epithelium may show hyperplasia. Granulosa cell tumors a benign or malignant tumor: of the ovary arising from the membrana granulosa of the vesicular ovarian (graafian) follicle and frequently secreting estrogen; it is soft, solid, white or yellow, and consists of small round cells sometimes enclosing Call-Exner bodies; larger lipid-containing cells may be presentumors folliculoma (1). Grawitz tumors old eponym for renal adenocarcinoma. Heterologous tumors a tumors composed of a tissue unlike that from which it springs. Hilar cell tumors of ovary, steroid cell tumors. Histoid tumors old term for a tumors composed of a single type of differentiated tissue. Homologous tumors, a tumor composed of tissue of the same sort as that from which it springs. Innocent tumors, benign tumors, interstitial cell tumors of testis, Leydig cell tumors. Islet cell tumors an endocrine tumors composed of cells

equivalent or related to those in the normal islet of Langerhans; may be benign or malignant; usually hormonally active; comprises insulinomas, glucagonomas, vipomas, somatostatinomas, gastrinomas, pancreatic polypeptide-secreting tumors, and multihormonal or hormonally inactive pancreatic islet cell tumors. Juxtaglomerular cell tumors, a tumor of juxtaglomerular cell origin usually presenting with symptoms of secondary aldosteronism, including severe diastolic hypertension, which appears to be due to tumors-produced renin. The histologic appearance resembles that of a hemangiopericytoma. Klatskin tumors, adenocarcinoma located at the bifurcation of the common hepatic ductumors Krukenberg tumors a metastatic carcinoma of the ovary, usually bilateral and secondary to a mucous carcinoma of the stomach, which contains signet-ring cells filled with mucus. Landschutz tumors a transplantable, possibly isoantigenic, highly virulent neoplasm which can be grown in any strain of mice; the host is killed in a few days by what is apparently an anaplastic carcinoma. Leydig cell tumors a testicular and, less commonly, ovarian neoplasm composed of Leydig cells, usually benign but may be malignant; may secrete androgens or estrogens. Interstitial cell tumors of testis. Lindau tumors, hemangioblastoma, low malignant potential tumors, borderline ovarian tumors, malignant tumors, a tumors that invades surrounding tissues, is usually capable of producing metastases, may recur after attempted removal, and is likely to cause death of the host unless adequately treated. Malignant mixed mùllerian tumors (MMMT) mixed mesodermal tumors, melanotic neuroectodermal tumors of infancy a benign neoplasm of neuroectodermal origin that most often involves the anterior maxilla of infants in the first year of life. It presents clinically as a rapidly

growing blue-black lesion producing a destructive radiolucency; histologically, it is characterized by small, round, undifferentiated tumors cells interspersed with larger polyhedral melanin-producing cells arranged in an alveolar configuration. Melanoameloblastoma, pigmented ameloblastoma, pigmented epulis, progonoma of jaw, retinal anlage tumors. Merkel cell tumors a rare malignant cutaneous tumors seen in sun-exposed skin of elderly patients composed of dermal nodules of small round cells with scanty cytoplasm in a trabecular pattern; the tumors cells contain cytoplasmic dense core granules resembling neurosecretory granules seen in Merkel cells. Primary neuroendocrine carcinoma of the skin, trabecular carcinoma. Mesonephroid tumors, mesonephroma. Mixed tumors a tumors composed of two or more varieties of tissue. Mixed mesodermal tumors a sarcoma of the body of the uterus arising in older women, composed of more than one mesenchymal tissue, especially including striated muscle cells. Malignant mixed mùllerian tumors, mixed tumors of salivary gland, a tumor composed of salivary gland epithelium and fibrous tissue with mucoid or cartilaginous areas. Pleomorphic adenoma, mixed tumors of skin, chondroid syringoma, mucoepidermoid tumors, mucoepidermoid carcinoma. Nelson tumors a pituitary tumors causing the symptoms of Nelson syndrome, oil tumors, lipogranuloma, oncocytic hepatocellular tumors, fibrolamellar Liver cell carcinoma, organoid tumors a tumors of complex structure, glandular in origin, containing epithelium, connective tissue, etc. Pancoast tumors any carcinoma of the lung apex causing the Pancoast syndrome by invasion or compression of the brachial plexus and stellate ganglion. Superior pulmonary sulcus tumors, pauillary tumors, papilloma, paraffin tumors, paraffinoma.

Phantom tumors accumulation of fluid in the interlobar spaces of the lung, secondary to congestive heart failure, radiologically simulating a neoplasm. Phyllodes tumors a spectrum of neoplasms consisting of a mixture of benign epithelium and stroma with variable cellularity and cytologic abnormalities, ranging from benign phyllodes tumors to cytosarcoma phyllodes; most often involves the breastumors pilar tumors of scalp a solitary tumors of the scalp in elderly women that may ulcerate; microscopically resembles squamous cell carcinoma composed of glycogen-rich clear cells, but is benign. Proliferating tricholemmal cystumors Pindborg tumors calcifying epithelial odontogenic tumors. Pinkus tumors fibroepithelioma, placental site trophoblastic tumors a tumor usually arising in the uterus of parous women during reproductive years. Histologically, the tumors consist of a predominance of intermediate trophoblastic cells with fibrinoid material and vascular invasion. Pontine angle tumors, a tumor in the angle formed by the cerebellum and the lateral pons, often refers to an acoustic schwannoma. Potato tumors of neck a firm nodular mass in the neck, usually a carotid body tumors (chemodectoma). Pregnancy tumors, granuloma gravidarum, primitive neuroectodermal tumors a designation used to refer to a group of morphologically similar embryonal neoplasms that arise in intracranial and peripheral sites of the nervous system and which may show various degrees of cellular differentiation; includes medulloblastoma, Rathke pouch tumors, craniopharyngioma, retinal anlage tumors melanotic neuroectodermal tumors of infancy. Rous tumors, Rous sarcoma. Sand tumors, pineoblastoma, etc. Ranine tumors ranula (2). Rathke pouch tumors, craniopharyngioma, and retinal anlage tumors melanotic neuroectodermal tumors of

infancy. Rous tumors, Rous sarcoma. Sand tumors, psammomatous, meningioma. Sertoli cells; most often benign but may be malignantumors Sertoli-Leydig cell tumors an ovarian tumors composed of Sertoli and Leydig cells; may secrete androgens. Arrhenoblastoma, gynandroblastoma (1). Sertoli-stromal cell tumors a generic term for ovarian sex-cord stromal tumors composed of Sedoli cells, Leydig cells, and cells resembling rete epithelial cells, either in a pure form or as a mixture of these cell types. Solitary fibrous tumors, a benign tumor of fibrous tissue, which usually arises in the pleural space on other sites. Benign mesothelioma. Squamous odontogepic tumors a benign epithelial odontogenic, tumors thought to arise from the epithelial cell rests of Malassez; appears clinically as a radiolucent lesion closely associated with the tooth root and histologically as islands of squamous epithelium enclosed by a peripheral layer of flattened cells. Steroid cell tumors a collective term used for ovarian tumors composed of cells resembling steroid-secreting lutein cells; comprises several tumors. Such as stromal luteoma, Leydig cell tumors, steroid cell tumors not otherwise specified; hormonally active; may be benign or malignantumors, hilar cell tumors of ovary, sugar tumors a benign clear cell tumors of the lung containing abundant glycogen. Superior pulmonary sulcus tumors. Pancoast tumors. Teratoid tumors teratoma, theca cell tumors, thecoma, triton tumors a peripheral nerve tumors with striated muscle differentiation, seen most often in neurofibromatosis; named after the Masson theory of transformation of motor nerve fibers into muscle in triton salamanders. Turban tumors multiple cylindromas of the scalp which, when overgrown, may resemble a turban. Villous tumors villous papilloma. Warthin tumors, adenolymphoma. Wilms

tumors, a malignant renal tumor of young children, composed of small spindle cells and various other types of tissue, including tubules and, in some cases, structures resembling fetal glomeruli, and striated muscle and cartilage. Often inherited as an autosomal dominant trait, neohroblastoma. Yolk sac tumors endodermal sihus tumors. Zollinger-Ellison tumors a non-beta cell tumors of pancreatic islet: causing the Zollinger-Ellison syndrome."

As stated in the MPEP, 2164.08 "[t]he Federal Circuit has repeatedly held that the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557, 1561 27 USPQZd 1510, 1513 (Fed. Cir. 1993). Nevertheless, not everything necessary to practice the invention need be disclosed. In fact, what is well known is best omitted. In re Buchner, 929 F.2d 660, 661, 18 USPQZd 1331, 1332 (Fed. Cir. 1991). All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art. Further the scope of enablement must only bear a reasonable correlation to the scope of the claims. See, e.g., In re Fisher, 427 F.2d 833, 839,166 USPQ 18, 24 (CCPA 1970). As concerns the breadth of a claim relevant to enablement, the only relevant concern should be whether the scope of enablement provided to one skilled in the art by the disclosure is commensurate with the scope of protection sought by the claims. In re Moore, 439 F.2d 1232, 1236, 169 USPQ 236, 239 (CCPA 1971). See also Plant Genetic Sys., N.V. v. DeKalb Genetics Corp., 315 F.3d 1335, 1339, 65 USPQZd 1452, 1455 (Fed. Cir. 2003) (alleged pioneer status of invention irrelevant to enablement determination."

Claims 12-14 and 17-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for reasons of record and stated above.

2. The applicants' amendments are sufficient to overcome the 35 U.S.C. § 112, second paragraph rejections labeled paragraph 4a), g), j), k), l), m), n), o), p), q), r), t), u) and v) in the last office action, which are hereby **withdrawn**. However, with regards to the 35 U.S.C. § 112, second paragraph rejection labeled b), c), d), e), f), h), i) and s) in the last office action, the applicant's amendments and remarks have been fully considered but they are not persuasive.

b) The applicants' state that the moiety phenyl-$(CH_2)_p$-$R^{10}$ is believed evident from the specification that the point of attachment is at any free position on the phenyl ring. However, it is not seen in the specification where this is moiety is defined. The phenyl-$(CH_2)_p$-$R^{10}$ in the definition of B is not a substituent but a completely valence satisfied compound where the phenyl ring is substituted by -$(CH_2)_p$-$R^{10}$.

Claims 1, 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

c) The applicants' state that the various grammatical and typographical changes have been made to the claims. However, the moiety -$NR^{11}$ in the

definition of X and Y has not been amended in claims 7 and 8 to correct the valency of the moiety.

Claims 7, 8, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

d) The applicants' state that the various grammatical and typographical changes have been made to the claims. However, the moiety $C_1$-$C_6$-alkenyl in the definition of $R^1$ and $R^5$ has not been amended in claims 2 and 7 to correct the valency of the moiety.

Claims 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

e) The applicants' state that the various grammatical and typographical changes have been made to the claims. However, the moiety $C_1$-$C_6$-alkinyl in the definition of $R^1$ and $R^5$ has not been amended in claims 2 and 7 to correct the valency of the moiety.

Claims 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

f) The applicants' state that the moiety phenyl-$(CH_2)_p$-$R^{10}$ is believed evident from the specification that the point of attachment is at any free position on the phenyl ring. However, it is not seen in the specification where this is moiety is defined. The phenyl-$(CH_2)_p$-$R^{10}$ in the definitions of $R^1$ and $R^5$ is not a substituent but a completely valence satisfied compound where the phenyl ring is substituted by -$(CH_2)_p$-$R^{10}$.

Claims 1, 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

h) The applicants' state that the moiety phenyl-$(CH_2)_p$-$R^{10}$ is believed evident from the specification that the point of attachment is at any free position on the phenyl ring. However, it is not seen in the specification where this is moiety is defined. The phenyl-$(CH_2)_p$-$R^{10}$ in the definition of $R^3$ is not a substituent but a completely valence satisfied compound where the phenyl ring is substituted by -$(CH_2)_p$-$R^{10}$.

Claims 1, 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

i) The applicants' state that the moiety phenyl-$(CH_2)_p$-$R^{10}$ is believed evident from the specification that the point of attachment is at any free position on the

phenyl ring. However, it is not seen in the specification where this is moiety is defined. The phenyl-$(CH_2)_p$-$R^{10}$ in the definition of the substituents of $R^3$ is not a substituent but a completely valence satisfied compound where the phenyl ring is substituted by -$(CH_2)_p$-$R^{10}$.

Claims 1, 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

s) The applicants' state that the various grammatical and typographical changes have been made to the claims. However, in claim 14 with respect to "agent" this is not so.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

3. The applicants' amendments are sufficient to overcome the 35 U.S.C. § 101 rejections labeled paragraph 5 in the last office action, which is hereby **withdrawn**.

In view of the amendment dated May 15, 2006, the following new grounds of rejection apply:

***Election/Restrictions***

4. Claims 6, 10 and 11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable

generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on November 30, 2005.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-3, 7-9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the compounds of formula (I) where A is a phenylene ring, does not reasonably provide enablement for the compounds of formula (I) where A is a $C_3$-$C_5$-arylene, $C_7$-$C_{12}$-arylene and $C_3$-$C_{18}$-heteroarylene. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

HOW TO MAKE: In evaluating the enablement question, several factors are to be considered. *In re* Wands, 8 USPQ2d 1400 (Fed. Cir. 1988); *Ex parte Forman*, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

The nature of the invention in the instant case, has claims which embrace compounds of formula (I), where A, B, X and Y together may be connected forming a

unimaginable number of compounds of which the applicants have neither support or contemplated.

The instant specification teaches about 143 examples where A is a phenylene ring and 15 examples where A is a thiophene ring. Each of these examples only possess a phenylene or thiophene in addition to the pyrimidine ring in the marcocyclic ring system.

In view of the lack of direction provided in the specification regarding starting materials, the lack of working examples, and the general unpredictability of chemical reactions, it would take an undue amount of experimentation for one skilled in the art to make the claimed compounds and therefore practice the invention. To be enabling, the specification of a patent must teach those skilled in the art how to make and use the scope of the claimed invention without undue experimentation. The applicants' are not entitled to preempt the efforts of others. The test for determining compliance with 35 U.S.C. § 112 is whether the applicants have clearly defined their invention.

Patent Protection is granted in return for an enabling disclosure of an invention, not for vague information of general ideas that may or may not be workable. Tossing out the mere germ of an idea does not constitute enabling disclosure. Genentech Inc. v. Novo Nordisk 42 USPQ2d 1001.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1, 2, 7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following reasons apply:

a) Claim 1, 2, 7, 9, 12-14 and 17-22 recite the limitation "$C_1$-$C_{10}$-alkyl, $C_2$-$C_{10}$-alkenyl, $C_2$-$C_{10}$-alkinyl" in the 2nd line on page 4; lines 8-9 on page 8; and lines 2-3 on page 16 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

b) Claim 1, 2, 7, 9, 12-14 and 17-22 recite the limitation "$C_1$-$C_{10}$-alkyl" in the 10th line on page 4; 16th line of page 8; and line 9 on page 16 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

c) Claim 1, 2, 7, 9, 12-14 and 17-22 recite the limitation "phenyl" in the 10th line on page 6; 14th line on page 10; and 8th line on page 18 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

d) Claim 1, 2, 7, 9, 12-14 and 17-22 recite the limitation "$C_3$-$C_{18}$-heteroaryl" in the 10th line on page 6; 14th line on page 10; and 8th line on page 18 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

e) Claim 2 recites the limitation "$C_1$-$C_6$-alkenyl, $C_1$-$C_6$-alkinyl" in the last line on page 7 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda L. Coleman whose telephone number is 571-272-0665. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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